

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. Canceled.
2. Canceled.
3. Canceled.
4. Canceled.
5. Canceled.
6. Canceled.
7. Canceled.
8. Canceled.
9. Canceled.
10. Canceled.

11. (Currently Amended) An annuloplasty device for surgical repair of a mitral valve, the mitral valve having a valve annulus, the valve annulus having an annulus anterior portion and an annulus posterior portion, the annulus anterior portion spanning between left and right anterior ends, the annulus posterior portion spaced apart from the annulus anterior portion in an anterior-posterior direction to define a mitral valve opening therebetween, the annulus posterior portion spanning in having a generally arcuate shape between the left and right anterior ends, the mitral valve having an anterior valve leaflet attached to the annulus anterior portion and a posterior valve leaflet attached to the annulus posterior portion, the anterior and posterior leaflets having respective anterior and posterior free margins, the free margins meeting at opposed ends to define

respective left and right commissures, the left and right commissures defining an inter-commissure dimension, the inter-commissure dimension defining an inter-commissure direction having a perpendicular relationship with the anterior-posterior direction, the left and right annulus anterior ends delimited, respectively, by projecting the left and right commissures anteriorly in the anterior-posterior direction towards the annulus anterior portion, the anterior and posterior leaflets movable between a closed [[systole]] systolic configuration in which the free margins are in an approximated spatial relationship, and an open [[diastole]] diastolic configuration in which the free margins are spaced apart to allow blood flow through the mitral valve opening generally along a valve-flow axis, the left and right commissures generally located within a valve-annulus plane, the valve-annulus plane being transverse to the valve-flow axis, said annuloplasty device comprising:

an anterior section, said anterior section being substantially elongate and spanning between configured with first and second anterior ends, said anterior section adapted for attachment to the annulus anterior portion, said first and second ends of said device being adapted for placement respectively proximate to the left and right anterior ends of the annulus anterior portion, and

a posterior section coupled to said anterior section, said posterior section adapted for attachment to the annulus posterior portion and spaced apart from said anterior section to define an annuloplasty device space therebetween, said posterior section spanning between said first and second anterior ends of said device with said posterior and anterior sections divided along a first axis, said annuloplasty device having a maximum width dimension along said first axis, said posterior section having a generally curvilinear shape, said generally

curvilinear shape being [[preformed]] permanently formed to be non-planar when viewed in [[the anterior-posterior]] a direction generally parallel to said first axis, wherein[[, in use,]] said non-planar generally curvilinear shape is retained after fixation of the annuloplasty device to the valve annulus to improve [[improves]] coaptation of the leaflet free margins in the [[systole]] systolic configuration by fixing the annulus posterior portion into a non-planar configuration.

12. (Previously Presented) The annuloplasty device of claim 11, wherein said device posterior section is configured to span in close proximity and alignment with the annulus posterior portion of the valve annulus.

13. (Currently Amended) The annuloplasty device of claim 12, wherein said device posterior section is [[preformed]] permanently formed to be asymmetric relative to ~~an~~ anterior-posterior plane, the anterior-posterior plane extending along the anterior-posterior direction, the anterior-posterior plane being perpendicular to the valve annulus plane, and the anterior-posterior plane located intermediate the left and right commissures a second axis bisecting said annuloplasty device along said first axis, said first and second axes being perpendicular to each other.

- 14. Canceled.
- 15. Canceled.
- 16. Canceled.
- 17. Canceled.

18. (Currently Amended) The annuloplasty device of claim [[16]] 11, wherein said non-planar shape includes a bend adapted to extend [[posterior segment is bent]] in the direction of normal blood flow along the valve-flow axis when the device is fixed to the mitral valve annulus, and said posterior segment is located proximate to the right commissure on one side of the anterior-posterior plane.

19. (Currently Amended) The annuloplasty device of claim [[16]] 11, wherein said posterior [[segment]] section is permanently formed to be symmetric relative to said minor a second axis, said second axis bisecting said annuloplasty device along said first axis, and said first and second axes being perpendicular to each other [[the anterior-posterior plane]].

21. Canceled.

22. Canceled.

23. Canceled.

24. Canceled

25. Canceled.

26. (Currently Amended) The annuloplasty device of claim [[14]] 11, wherein said posterior and anterior sections together form a ring-shaped member.

27. Canceled.

28. (Currently Amended) The annuloplasty device of claim 26, wherein said ring-shaped member is substantially "D" shaped when viewed [[along]] in a direction parallel to the valve-flow axis, said anterior section being configured to form [[the]] a substantially straight portion of said "D"-shape, and said posterior section being configured to form [[the]] a substantially arcuate portion of said "D"-shape.

29. (Currently Amended) The annuloplasty device of claim 28, wherein said ring-shaped member is asymmetric about a second axis, said second axis bisecting said annuloplasty device along said first axis, and said first and second axes being perpendicular to each other an anterior-posterior plane, the anterior-posterior plane being normal to the inter-commisuro direction, the anterior-posterior plane being perpendicular to the valve-annulus plane and located intermediate the left and right commissures in use.

- 30. Canceled.
- 31. Canceled.
- 32. Canceled.
- 33. Canceled.